



Update on SVMG Survey: PQ, Reliability, and Digital Loads

- Preliminary Results -

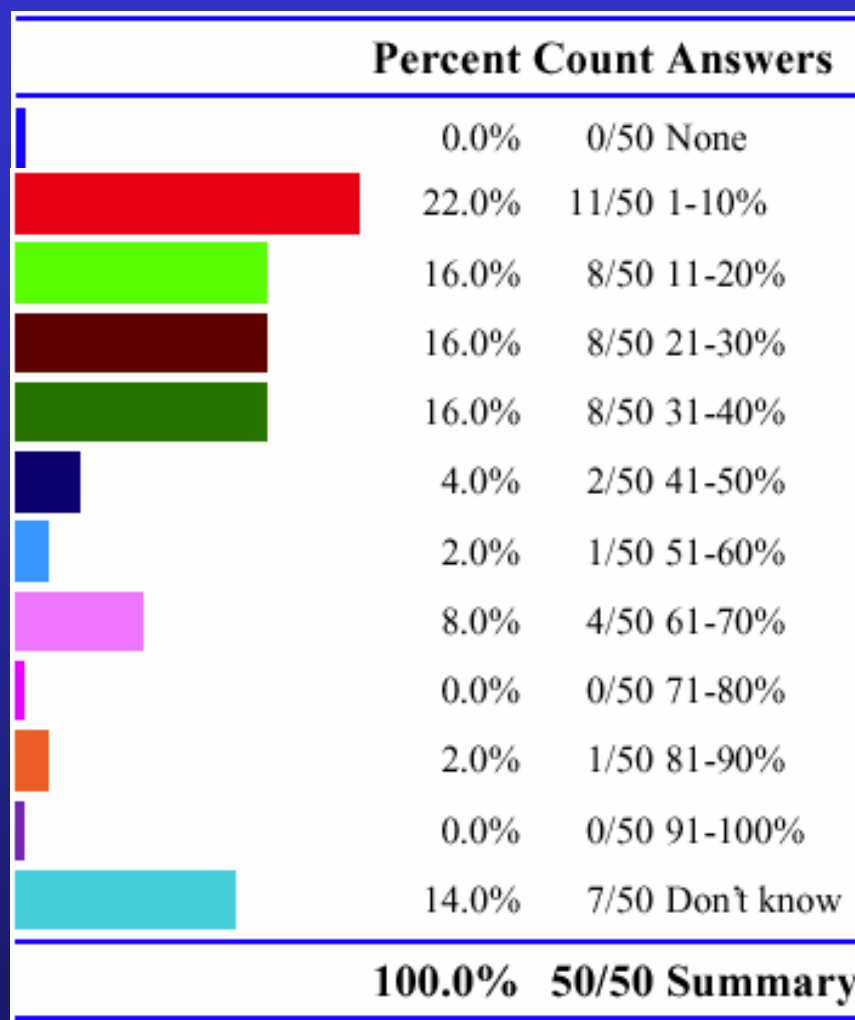
Bill Howe, PE
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Survey of SVMG Membership

- Survey Respondents
 - 50 overall
 - 80% of these are high-tech, computer, related manufacturing, and data processing enterprises
 - The remainder including mining, professional services, and hospitals
- Objective: To assess the role of new “digital loads” in PQ and Reliability issues
- Our thanks to SVMG, Justin Bradley, and his team for their support and expertise
- Our special thanks to the U.S. Department of Energy and the California Energy Commission for their financial support of this important work

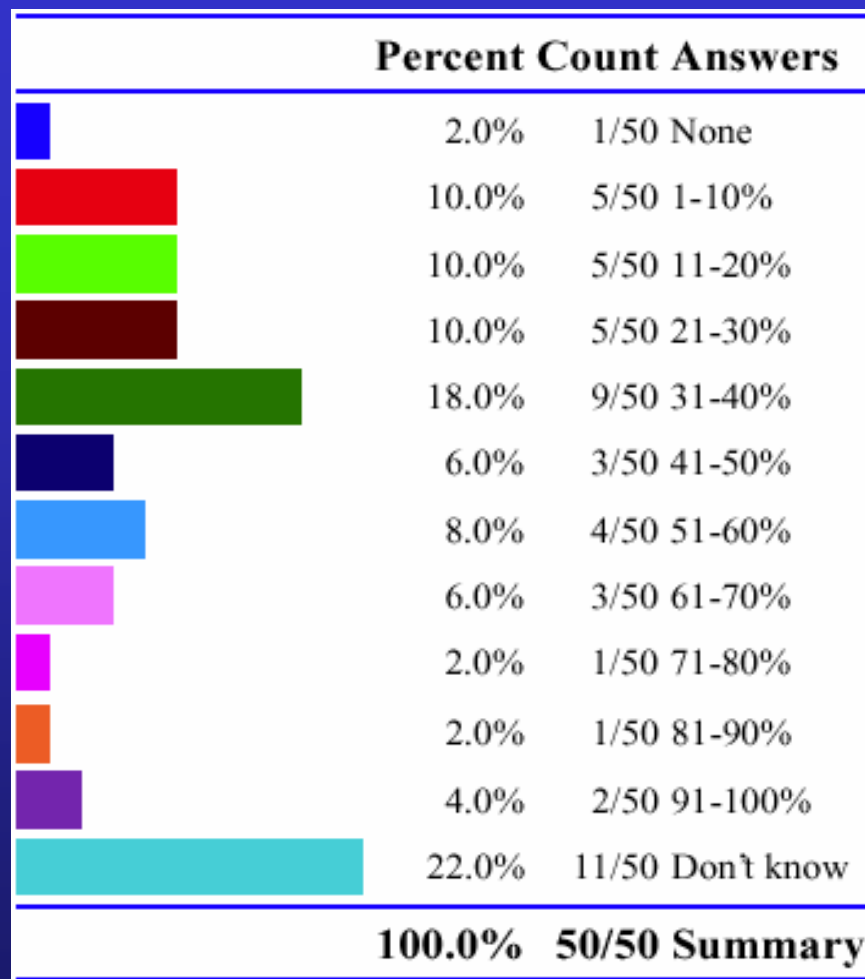


Percent of Power Going to Digital Loads Today?



Weighted average: 23.3% of respondent loads are “digital”

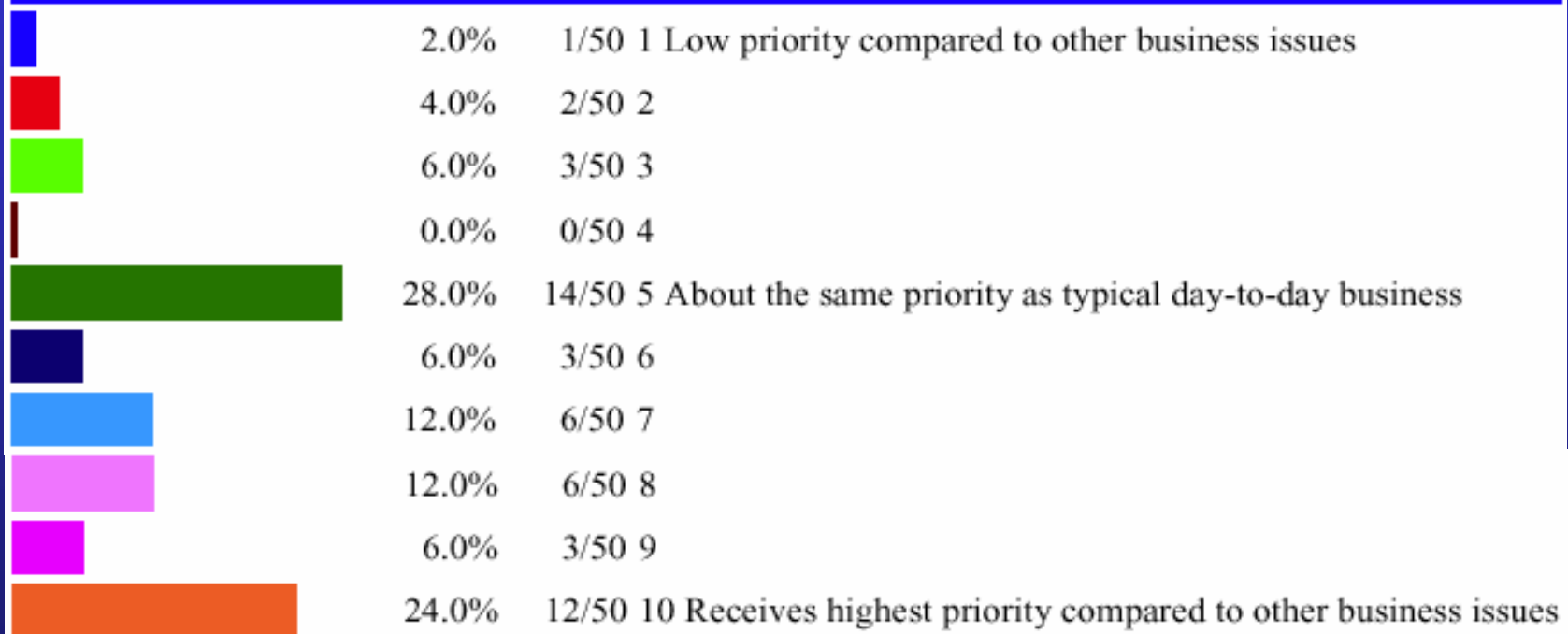
Percent of Power Going to Digital Loads In 10 Years?



Weighted average: 29.2% of respondent loads will be “digital” in 10 years, an increase of 25%.

Priority Given By Management to PQ and Reliability Issues

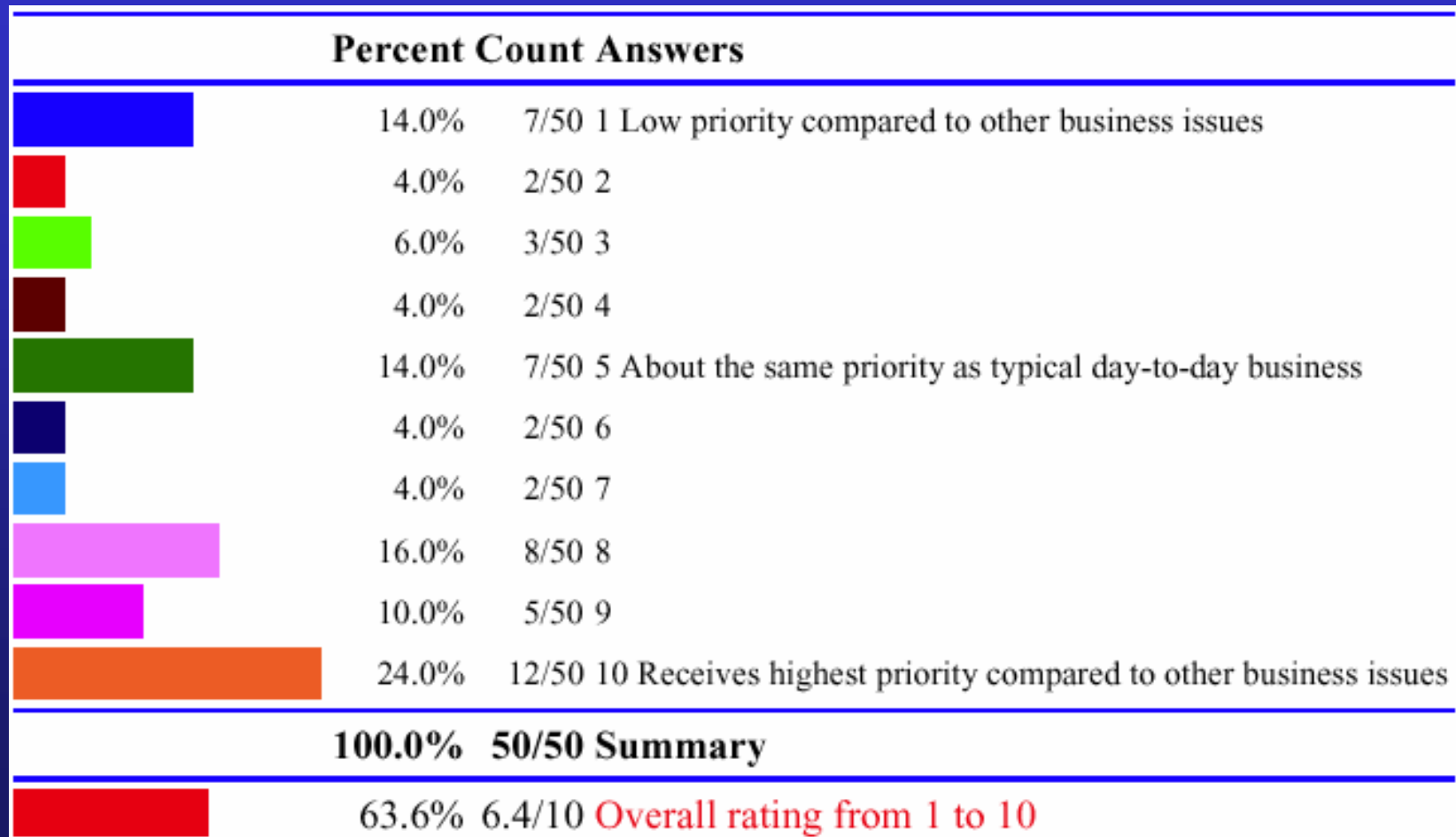
Percent Count Answers



100.0% 50/50 Summary

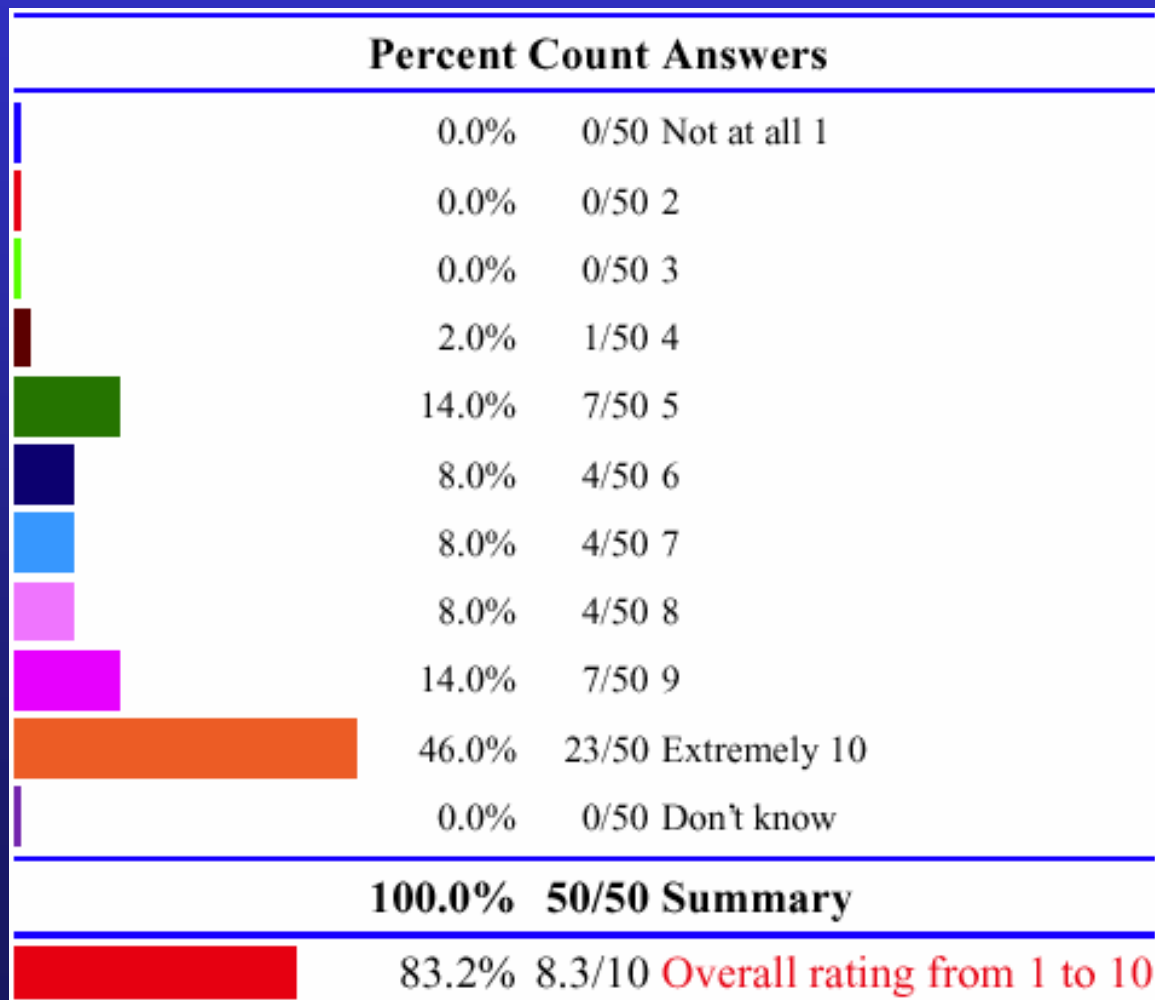
67.8% 6.8/10 Overall rating from 1 to 10

Money Invested in Improving PQ and Reliability



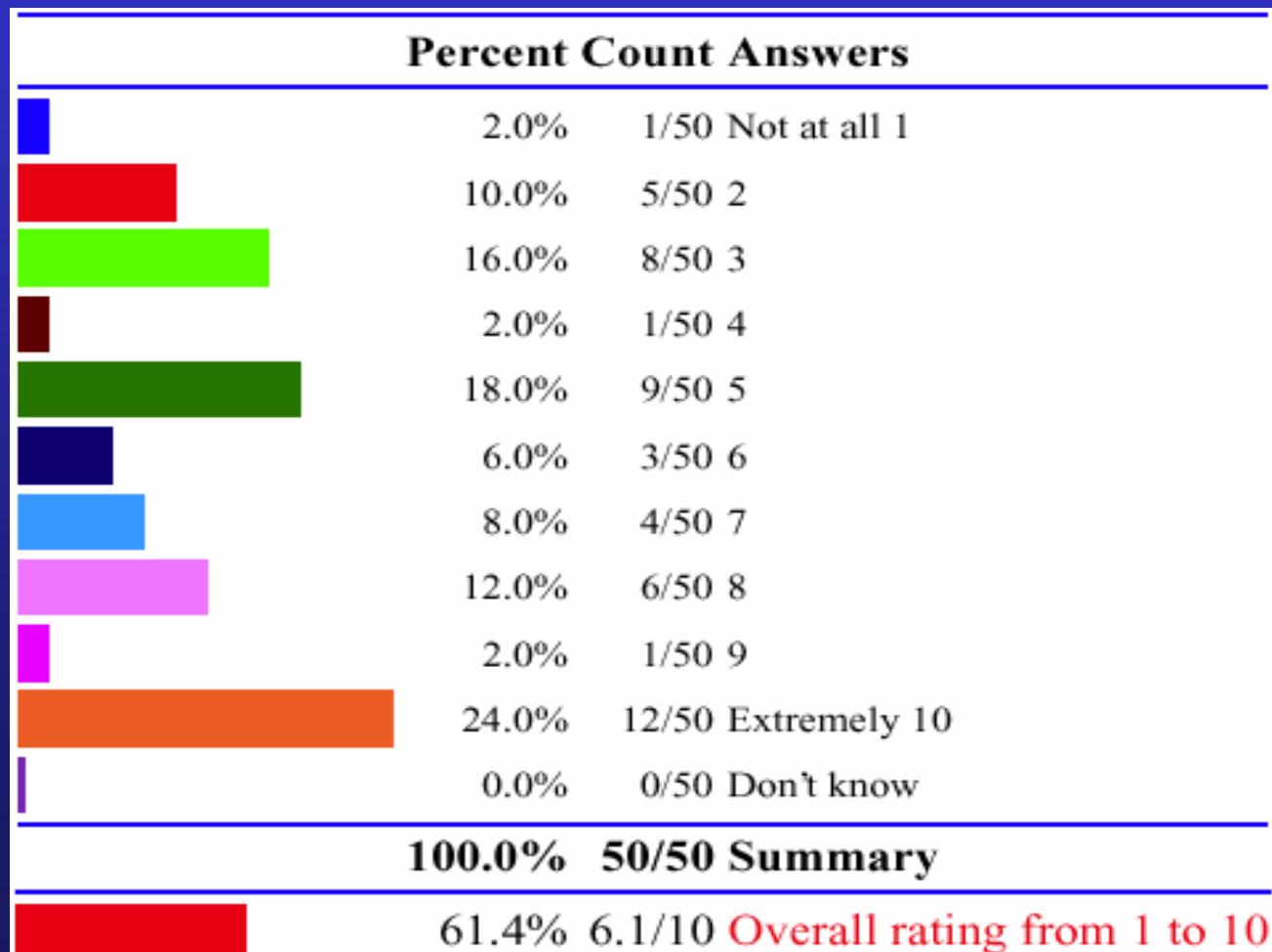
How Injurious are Power Interruptions to Your Business?

(> 1 hour)



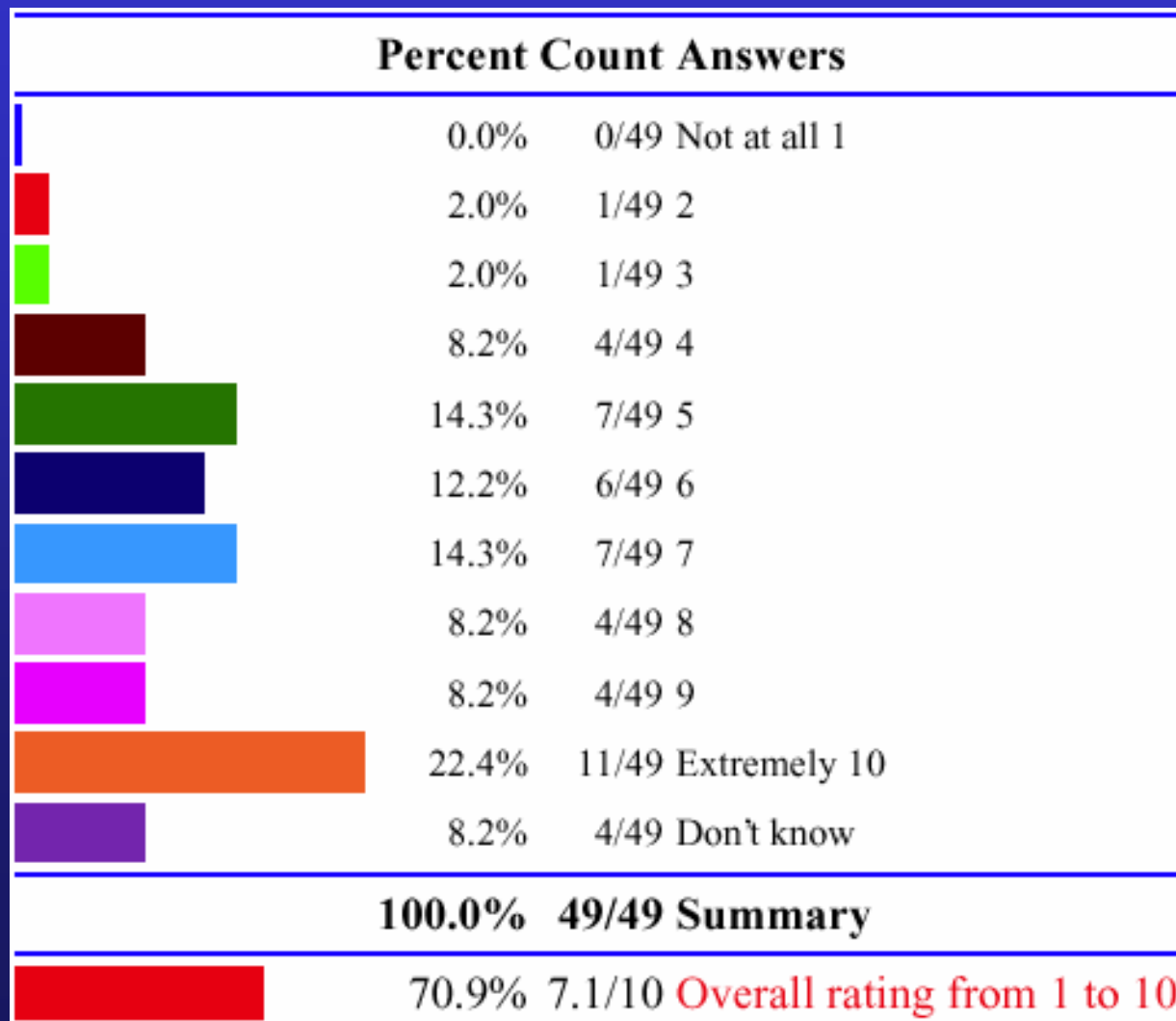
How Injurious are Momentary Interruptions to Your Business?

(1-2 seconds)

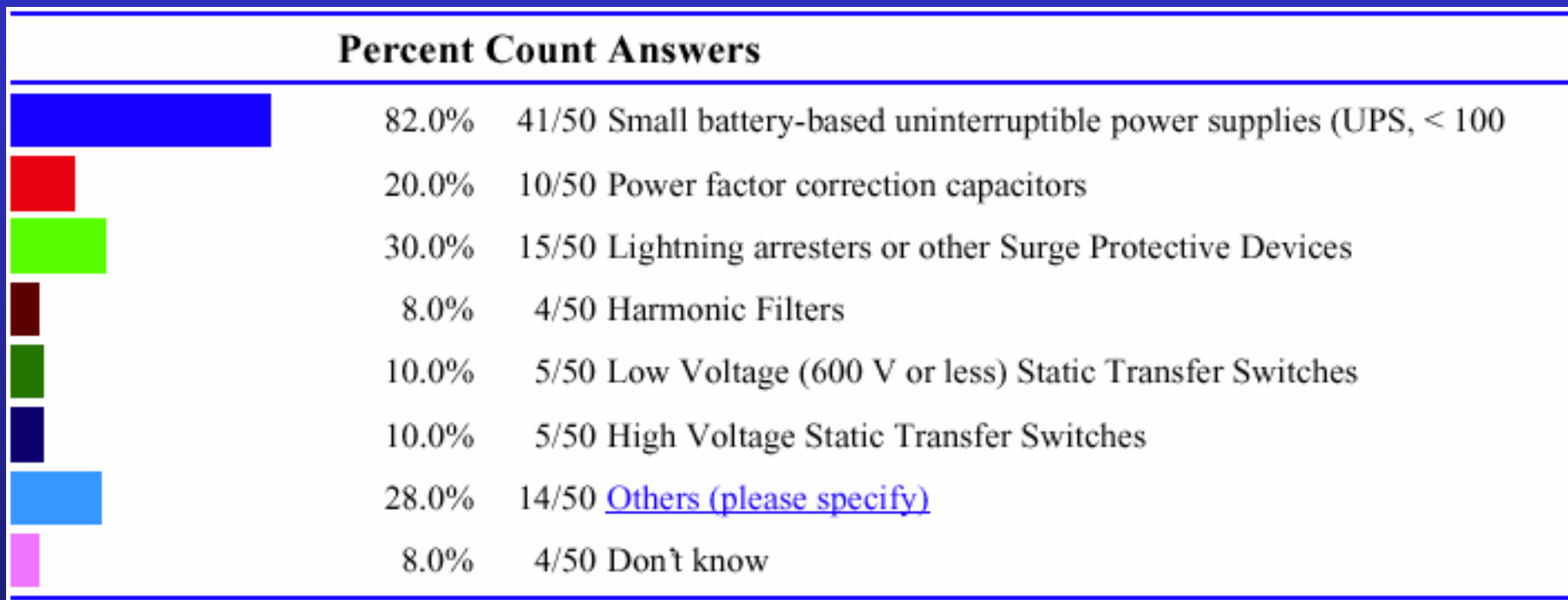


How Injurious is Long-term Voltage Reduction to Your Business?

(7% reduction)



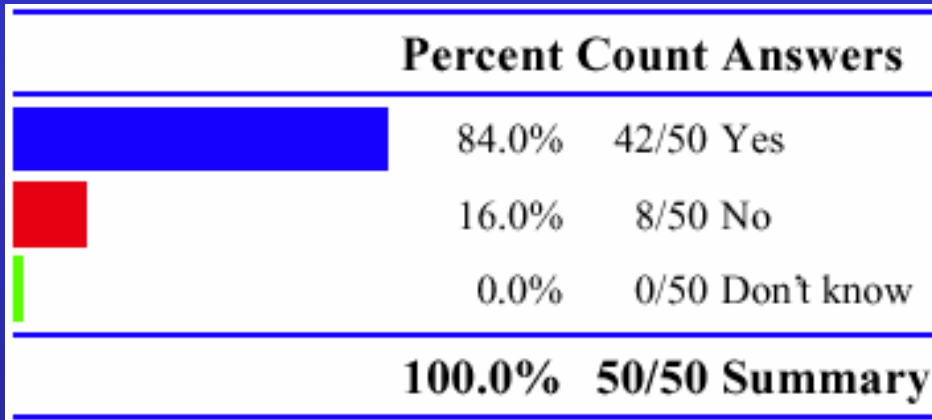
What Sorts of PQ Mitigation Equipment Are Currently In Use?



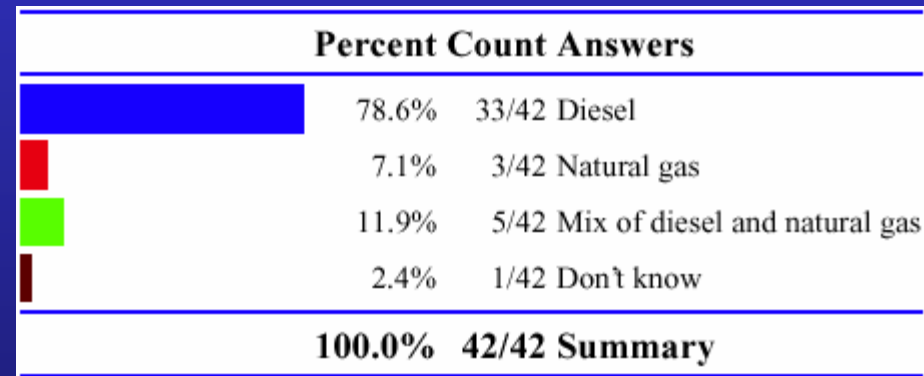
“Other methods” were primarily DR technologies and switches

Distributed Generation

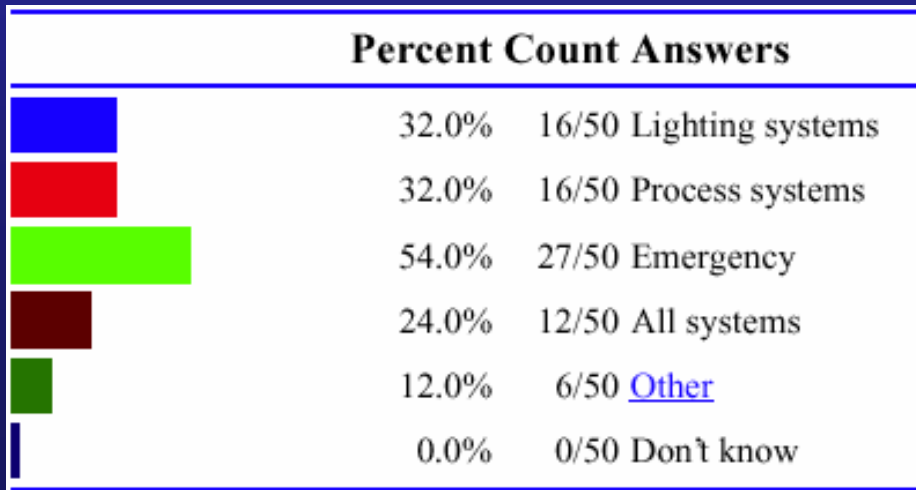
Percent Who Use DG



Fuel Source






Systems Protected







Uninterruptible Power Supply (UPS)

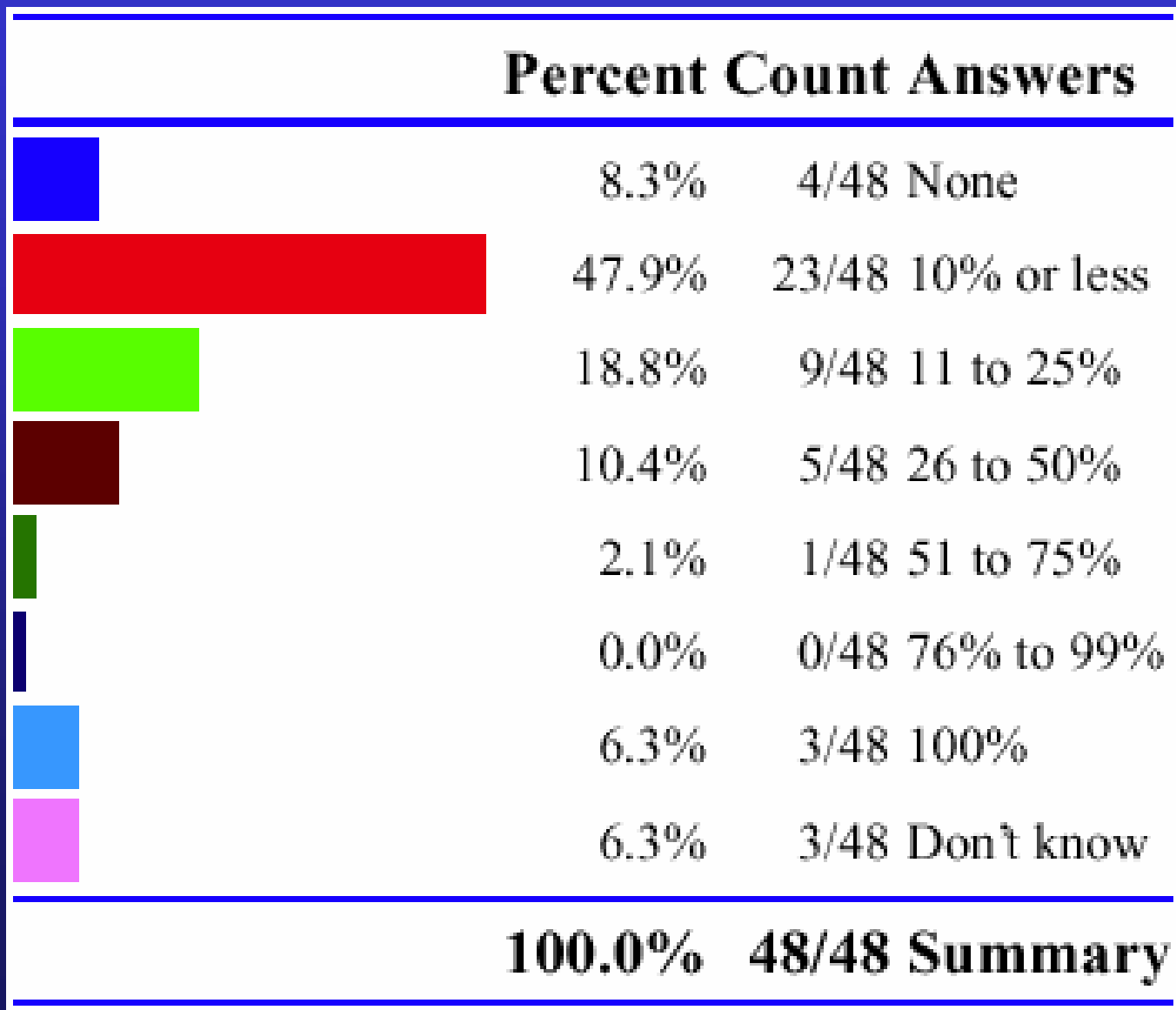
Percent Who Use UPS

Percent Count Answers		
	94.0%	47/50 Yes
	4.0%	2/50 No
	2.0%	1/50 Don't know
100.0% 50/50 Summary		

Type of UPS

Percent Count Answers		
	84.0%	42/50 Battery-based uninterruptible power supply (UPS)
	6.0%	3/50 Rotary motor-generator set (e.g. Piller or Hitec)
	6.0%	3/50 Flywheel (e.g. Active Power, CatUPS, Sure
	2.0%	1/50 Other

What Percentage of Your Loads are Completely Protected from Utility Power Interruptions?





Discussion

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